

Specifications



Photo is representative



Eaton 276396

Eaton Moeller® series DILA Contactor relay, 110 V 50 Hz, 120 V 60 Hz, 2 N/O, 2 NC, Screw terminals, AC operation

General specifications

PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	276396
MODEL CODE	DILA- 22(110V50HZ,120V60HZ)
EAN	4015082763961
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.24 kg
CERTIFICATIONS	CSA Class No.: 3211-03 CSA File No.: 012528 IEC/EN 60947 EN 60947-5-1 UL UL 508 CE IEC/EN 60947-4-1 UL File No.: E29184 CSA-C22.2 No. 14-05 UL Category Control No.: NKCR VDE 0660 CSA

Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX 60 °C

AMBIENT STORAGE TEMPERATURE - MAX 80 °C

AMBIENT OPERATING TEMPERATURE - MIN -25 °C

AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX 40 °C

AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN -25 °C

AMBIENT STORAGE TEMPERATURE - MIN -40 °C

CLIMATIC PROOFING
Damp heat, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Contacts

CODE NUMBER 22D

CONTROL CIRCUIT RELIABILITY
 $\lambda < 5 \times 10^{-7}$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)
 $\lambda < 5 \times 1/10^7$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)

NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS) 0

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) 2

NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) 2

NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) 2

NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) 2

Communication

CONNECTION TO SMARTWIRE-DT No

Design verification

10.10 TEMPERATURE RISE
The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

10.11 SHORT-CIRCUIT RATING
Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.12 ELECTROMAGNETIC COMPATIBILITY
Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.13 MECHANICAL FUNCTION
The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

10.2.2 CORROSION RESISTANCE
Meets the product standard's requirements.

10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES
Meets the product standard's requirements.

10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT
Meets the product standard's requirements.

10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.5 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	15.5 A
STATIC HEAT	1.4 W

Electrical rating

CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)

16 A

RATED INSULATION VOLTAGE (UI)

690 V

RATED OPERATIONAL CURRENT (IE)

2 A at 110 V, DC L/R $\leq$ 50 ms (with 3 contacts in series)
1 A at 220 V, DC L/R $\leq$ 50 ms (with 3 contacts in series)
10 A at 60 V, DC L/R $\leq$ 15 ms (with 2 contacts in series)
6 A at 110 V, DC L/R $\leq$ 15 ms (with 3 contacts in series)
6 A at 60 V, DC L/R $\leq$ 15 ms (with 1 contact in series)
3 A at 110 V, DC L/R $\leq$ 15 ms (with 1 contact in series)
1 A at 220 V, DC L/R $\leq$ 15 ms (with 1 contact in series)
10 A at 24 V, DC L/R $\leq$ 15 ms (with 1 contact in series)
4 A at 24 V, DC L/R $\leq$ 50 ms (with 3 contacts in series)
4 A at 60 V, DC L/R $\leq$ 50 ms (with 3 contacts in series)
5 A at 220 V, DC L/R $\leq$ 15 ms (with 3 contacts in series)
16 A

RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V

4 A

RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V

4 A

RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V

1.5 A

RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX

690 V

SAFE ISOLATION

400 V AC, Between coil and auxiliary contacts, According to EN 61140
400 V AC, Between auxiliary contacts, According to EN 61140

SHORT-CIRCUIT

10 A gG/gL, 500 V, Max.

Features & functions

FEATURES

Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module

FITTED WITH:

Positive operation contacts

PROTECTION RATING WITHOUT WELDING	Fuse, Contacts
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 15 A, 600 V AC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)

General information	
APPLICATION	Contact relays
CONNECTION	Screw terminals
DEGREE OF PROTECTION	IP20
LIFESPAN, MECHANICAL	20,000,000 Operations (AC operated)
MOUNTING METHOD	DIN-rail/screw
OPERATING FREQUENCY	9000 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	DILA relays
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
SHOCK RESISTANCE	5 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 7 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
VOLTAGE TYPE	AC

Magnet system	
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)
POWER CONSUMPTION, PICK-UP, 50 HZ	24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, PICK-UP, 60 HZ	24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, SEALING, 50 HZ	1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 3.4 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, SEALING, 60 HZ	1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	110 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	110 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	120 V
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms

SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	15 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	9 ms

Terminal capacities

SCREW SIZE	M3.5, Terminal screw
SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
STRIPPING LENGTH (MAIN CABLE)	10 mm
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² , Screw terminals 2 x (0.75 - 2.5) mm ² , Screw terminals
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm ² , Screw terminals 2 x (0.75 - 2.5) mm ² , Screw terminals
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Screw terminals

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-component-dila-relay-characteristic-curve.eps eaton-contactors-dila-relay-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	eaton-control-relay-declaration-of-conformity-uk251205en.pdf eaton-control-relay-declaration-of-conformity-eu250722en.pdf
DRAWINGS	eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-frame-dilm-dimensions.eps eaton-contactors-module-dilm-dimensions.eps eaton-contactors-dilm-3d-drawing-007.eps
ECAD MODEL	ETN.276396.edz
INSTALLATION INSTRUCTIONS	eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CS-dil_m7_15

	eaton-iec-contactors-mcad-drawings-dil-m7-15.dwg
SELLING POLICY AND T&CS	Hydraulic Warranty
SYSTEM OVERVIEW	eaton-contactors-dila-system-overview.eps
WIRING DIAGRAMS	eaton-contactors-wiring-diagram-2100swi-108.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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